

THE DER WEEKLY

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DOE News

On February 12 and 13, Bill Parks, Associate Deputy Assistant Secretary for the Office of Power Technologies and Phil Overholt, Office of DER, participated along with approximately 60 cooperative members, **National Rural Electric Cooperative Association** (NRECA) staff and Steve Gehl from EPRI in the Rural Electric Cooperatives Technology Roadmap Workshop sponsored by the NRECA/Cooperative Research Network (CRN). The workshop objective was to establish a comprehensive technology agenda to guide future research partnerships and funding decisions. The group split into four sub-groups which confirmed or modified the Vision for the strategic goals and took part in a facilitated process to quantify performance targets, identify technical barriers to achieving the goals, propose near-, mid-, and long-term activities, prioritize research needs, and assess the impact of the priority research on the goals and targets. Each of the four groups reported their findings in a summary session. Proposed research activities were predominantly near- and mid-term (less than 7 years) based on the Coop's near-term focus on assistance in dealing with a restructuring electricity industry. Bill Parks referred to the recently signed DOE/NRECA memorandum of understanding (MOU) for energy-related research, development, and demonstration, and advocated an R&D portfolio approach that includes a range of activities over an extended time. DOE has a number of jointly funded on-going projects with CRN and will continue to collaborate under the guidance of the MOU.

On February 13, a **pre-proposal conference** was held in Chicago, Illinois, for two planned Requests for

Proposals (RFPs). These RFPs are for: (1) Research and Development of Packaged/Modular Building Cooling Heating and Power (BCHP) Systems Technology and (2) Research and Development of Desiccant-based Combined Systems. The two RFPs, one scheduled to be issued in late February and the plan is to award multiple subcontracts as a result of each of these solicitations.

Thirty-five potential bidders attended the pre-proposal conference including engine, turbine, fuel cell, and HVAC manufacturers. More potential bidders have expressed interest in the RFP but were unable to attend the pre-proposal conference. The preliminary bidders lists currently include 57 for the Packaged/Modular BCHP Systems Technology and 47 for the Desiccant-based Combined Systems.

On February 21, Adriene Wright from the **Electric Power Research Institute** (EPRI) Washington Office briefed Bill Parks and Phil Overholt on EPRI's progress in creating an organization to allow broad public/private cooperation on electric reliability research. The new organization, tentatively called the Electricity Innovation Institute (EII), is non-profit and will have an independent board of directors to guide research in four general research areas. Initial activity will focus on the consortium for electric infrastructure to support a digital society and advanced clean generation, with environmental and energy efficiency areas to be initiated later. EII is expected to be in operation in August 2001, following EPRI board approval in April. Ms. Wright, General Manager of EII, has been invited to brief a wider Department of Energy audience after Board approval.

On February 21, Anne-Marie Borbely-Bartis gave a presentation at a micropower conference in San Francisco. Her talk, entitled "**DER: What's New at the DOE,**" covered the applications and activities of DOE-sponsored technologies. In addition, the impact of e-commerce on energy usage and the transition from the analog to digital age was addressed.

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Conference Announcement

The Office of Power Technologies is sponsoring **Fuel Cells Summit V** on May 30-31, 2001, to continue its commitment to help identify and address emerging issues and to foster a more effective and supportive institutional environment for market-driven adoption of fuel cell power plant technologies. Summit V will provide an overview of the status of fuel cell R&D and commercialization; identify remaining gaps in the relevant codes and standards for stationary, portable, and vehicular applications; present results of a "mini-case study" of code officials in the Tri-Cities, Washington, and their level of preparedness for fuel cell installations; provide working discussions of remaining barriers and means to address them; and determine additional needs, roles and responsibilities as new gains toward fuel cell commercialization are made. This year's Summit will emphasize participatory working sessions designed to develop an action plan for addressing remaining needs. Summit participants will include manufacturers, representatives from code organizations, building code officials, government staff, and various other parties interested in fuel cell commercialization and use. Summit V is to be held on the campus of the University of Maryland and will feature a tour of the Cooling, Heating, and Power test site also being funded by OPT.

The **Pacific Northwest National Laboratory** assessed the needs of a group of building code officials and code inspectors from the Tri-Cities, Washington, regarding their level of preparedness for effectively and efficiently permitting fuel cell systems. The results obtained in this study suggest that the three most urgent and potentially hindering issues related to permitting a fuel cell installation are:

- fuel supply and storage, as it relates to the type of fuel being used and storage location
- utility interconnect, as it relates to requirements for connecting and supplying electricity back to the local power grid
- fire fighter intervention when responding to a fire with a fuel cell installed in or around the building

The assessment further indicates that code officials will need a great deal of education to get "up to speed" on the technology as very few of the code officials contacted had previous knowledge of fuel cells or of the relevant codes and standards. In order to assist in promoting market penetration of fuel cells, the Office of Power

Technologies is thus considering the development of a national education and outreach program for building code officials across the United States.

Industry News

Texas A&M is in the final stages of a \$2.7 million upgrade to its largest on-campus combustion turbine, which is expected to increase campus energy efficiency 15 to 20 percent. Improving the turbine is part of a two-phase plan; work on the generator that complements it will begin towards the end of this year. The university currently generates approximately 60 percent of its own energy and purchases the rest from natural gas suppliers. The goal of this upgrade is to rely less on outside power generation.

PG&E National Energy Group (NEG) and GE Power Systems' Energy Services unit have entered a long-term service agreement worth more than \$1 billion. Under the agreement, GE will supply parts, services and repairs for more than 20 gas turbines for 12 years. PG&E NEG currently owns and operates more than 30 power plants, producing over 7,000 MW of power, and in 2000 GE received commitments from PG&E for the purchase of more than 20 gas turbines. This is the first fleet-wide *services* arrangement between PG&E NEG and GE, and is one of the U.S. power industry's largest service agreements.

Capstone Turbine Corporation has created Capstone California, a wholly owned subsidiary, striving to directly serve the electricity needs of businesses in California. Capstone California plans to sell turnkey microturbine-based energy solutions, which can be operated twenty-four hours a day. Several proposals have been extended to interested parties, and the new subsidiary is working with utilities and energy service providers to build relationships with electric engineers and electric contractors.

(Continued on page 3)

The Weekly Factoid

According to a February 21 press release from E Source, an estimated **70 to 105 GW** of on-site, installed generation capacity is available in the U.S. This is equivalent to more than 10 percent of existing U.S. utility central plant capacity, but these distributed energy resources are rarely used. For more information on this press release visit www.esource.com and click "press room."

Power Light of Berkeley will install a 500 kW solar electric unit at Santa Rita Jail in Dublin, California. The Alameda County Board of Supervisors authorized the installation, which will be the largest roof-mounted system in the U.S. The jail will also implement several energy efficiency projects through CMS Viron Energy Services. Once the projects are complete, the facility's consumption of grid-generated electricity will be reduced by approximately 20 percent, resulting in millions of taxpayer dollars saved over the life of the systems.

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**The Long Island Power Authority (LIPA)** is advancing strategies to try to use its electricity resources more efficiently in anticipation of high demand this summer. One initiative includes offering financial incentives to businesses and governmental units that agree to generate a portion of their needed electricity from June to September. This new Supplemental Service Rate has been added to its tariff to encourage use of existing on-site generation or the installation of distributed generation systems.

### **Green Power News**

**Consolidated Edison** (Con Edison) has formally endorsed the CERES (Coalition for Environmentally Responsible Economies) Principles, which is a ten-point code of corporate environmental conduct. The CERES Coalition will evaluate Con Edison on its reduction and disposal of wastes, energy conservation, reduction or elimination of unsafe and hazardous products and services, and communication with the public about company conditions that may pose a threat to public health, safety, or the environment.

### **Policy News**

**The American Public Power Association's (APPA)** Legislative and Resolutions Committee has adopted resolutions on energy and environmental issues, including one resolution that calls on Congress to "adopt competitively neutral policies that promote safe and cost-effective commercial deployment of distributed generation technologies." The entire APPA membership will consider all proposed resolutions at their national conference, which will be held in Washington, DC, from June 18 to 20, 2001. To view the resolutions please visit APPA's Web

## **Feature of the Week**

### **Wind Turbines Power Remote Alaskan Village**

The village of **Wales, Alaska** - a village of 165 **Inupiat Eskimos** at the westernmost tip of North America (just 50 miles east of Russia) - is one of more than 200 rural Alaskan villages not on the state's electric grid. Until recently, its residents have been forced to rely on **diesel generators** for electrical power. However, the recent installation of two **80-foot high wind turbines** should power the entire community for the equivalent of half a year, reducing diesel fuel consumption in the community by 60 percent.

Most wind plants supply less than 20 percent of a city's electricity, but because of the Bering Strait's steady winds, this \$1.2 million project is expected to produce so much power that an innovative control system has been designed to divert surplus electricity to the village's school and powerhouse. However, one uncertainty is whether the turbines will survive the Strait's brutal winds, which often exceed 100 mph. Previous wind projects in Alaska, including two in Wales, failed in the 1980s because they were not built to handle such conditions. Yet, when the **Department of Energy's National Renewable Energy Laboratory (NREL)** tested turbines identical to those installed for this project, the turbines held up in 125 mph winds. NREL hopes this Wales project will lead to other rural wind projects that encourage energy independence for remote villages.

#### **Sources:**

Office of Energy Efficiency and Renewable Energy Wind Energy website  
[http://www.eren.doe.gov/RE/wind\\_turbine\\_use.html](http://www.eren.doe.gov/RE/wind_turbine_use.html)

Popular Science magazine, January 2001 issue, <http://www.popsci.com>

## CALENDAR OF EVENTS

| Date                 | Event                                                                                                                         | Location          | Other Information                                      |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------|
| <b>FEBRUARY 2001</b> |                                                                                                                               |                   |                                                        |
| 26                   | Hill Briefing on CHP                                                                                                          | Washington, DC    | Suzanne Watson at (202) 464-4018 or swatson@nemw.org   |
| 28-March 1           | Electricity Restructuring Program Review                                                                                      | Washington, DC    | Larry Mansueti 202-586-2588; Tara Finck 202-479-2748   |
| <b>MARCH 2001</b>    |                                                                                                                               |                   |                                                        |
| 8                    | NREL Brown Bag Series: Renewable Energy and Real Options Analysis                                                             | Washington, DC    | www.nrel.gov/events.html                               |
| 20-24                | Distributed Generation Conference                                                                                             | San Diego, CA     | www.powerin.org                                        |
| 20-21                | Fuel Cell Investor 2001                                                                                                       | Boston, MA        | www.srinstitute.com/cr188                              |
| 21-23                | 5th Annual Distributed Generation and On-site Power Conference                                                                | New Orleans, LA   | Pat Hoffman to give keynote address; www.dist-gen.com  |
| 21-23                | Western Energy Institute Distributed Generation Conference                                                                    | San Diego, CA     | www.powerin.org/distgenregform.html                    |
| 22-24                | Building Energy Conference                                                                                                    | Boston, MA        | Jonathon Tauer 413-774-6051, ext. 20                   |
| <b>APRIL 2001</b>    |                                                                                                                               |                   |                                                        |
| 2-3                  | Business Communications Company's 1 <sup>st</sup> Fuel Cell Conference                                                        | San Antonio, TX   | EERE representative to speak; www.buscom.com           |
| 23-25                | Intertech's Fifth International Conference on Distributed Power                                                               | Washington, D.C.  | Hugh Olmstead; olmstead@intertechusa.com; 207-281-9606 |
| <b>MAY 2001</b>      |                                                                                                                               |                   |                                                        |
| 1-3                  | Industrial Energy Technology Conference                                                                                       | Houston, TX       | jim@esl.tamu.edu                                       |
| 9-10                 | Energy Management Conference                                                                                                  | San Diego, CA     | Sponsored by FEMP; www.aeecenter.org                   |
| 21-23                | Third Annual ICEPAG (International Colloquium and Exhibit on Environmentally Preferred Advanced Energy Generation) Conference | Newport Beach, CA | More information next issue                            |
| 24-25                | Together with the First United Nations and DOE (FE and EE) Conference on Hybrid Power Systems                                 | Newport Beach, CA | More information next issue                            |
| 30-31                | Fuel Cells Codes & Standards Summit V                                                                                         | College Park, MD  | ronald.fiskum@ee.doe.gov                               |

## CALENDAR OF EVENTS

| Date                | Event                                                                              | Location          | Other Information                                                                                                 |
|---------------------|------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>JUNE 2001</b>    |                                                                                    |                   |                                                                                                                   |
| 3-6                 | FEMP Energy 2001 Conference                                                        | Kansas City, MO   | <a href="http://www.energy2001.ee.doe.gov">www.energy2001.ee.doe.gov</a>                                          |
| 3-7                 | WindPower 2001 Conference                                                          | Washington, DC    | <a href="http://www.awea.org">www.awea.org</a> ; <a href="mailto:laura_keelan@awea.org">laura_keelan@awea.org</a> |
| 11-13               | International Symposium on Distributed Generation: Power System and Market Aspects | Stockholm, Sweden | <a href="http://www.ekc.kth.se/ees/workshop/DG.htm">http://www.ekc.kth.se/ees/workshop/DG.htm</a>                 |
| 18-20               | APPA National Conference                                                           | Washington, DC    | <a href="http://www.appanet.org">www.appanet.org</a>                                                              |
| <b>JULY 2001</b>    |                                                                                    |                   |                                                                                                                   |
| 10-12               | Gas Storage Workshop                                                               | Kingston, Ontario | David Quinn; <a href="mailto:quinn-d@rmc.ca">quinn-d@rmc.ca</a>                                                   |
| <b>AUGUST 2001</b>  |                                                                                    |                   |                                                                                                                   |
| 29-Sep<br>3         | IEEC Integrated Energy Efficiency Congress                                         | Cleveland, OH     | Sponsored in part by FEMP; <a href="http://www.aeecenter.org">www.aeecenter.org</a>                               |
| <b>OCTOBER 2001</b> |                                                                                    |                   |                                                                                                                   |
| 24-26               | World Energy Engineering Congress                                                  | Atlanta, GA       | <a href="http://www.agcc.org">www.agcc.org</a>                                                                    |